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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/761,514 | 01/16/2001 | Steven D. Conover | 1064-US | 5648 |
| 25263 | 7590 | 08/05/2004 | EXAMINER | |
| J GRANT HOUSTON AXSUN TECHNOLOGIES INC 1 FORTUNE DRIVE BILLERICA, MA 01821 | | | KERNs, KEVIN P | |
| | | ART UNIT | PAPER NUMBER | |
| | | 1725 | | |

DATE MAILED: 08/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/761,514 | CONOVER ET AL. | |
| | Examiner | Art Unit | |
| | Kevin P. Kerns | 1725 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 06 July 2004.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-50 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-50 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Dudel et al. (DE 198 05 849 – English translation provided in the prior Office Action).

Dudel et al. disclose a method for constructing and connecting optical components, in which the process includes the following: providing an arrangement of a plurality of optical components or subassemblies 12 having predetermined optical properties (e.g. focal lengths) via solder or other thermal bonding material 21 (with solder pads/bumps 13b allowing for plastic deformation) on an optical bench (10,11) to form an optical train (for a total of 3 subassemblies aligned along axis z of Figure 2); positioning the components/subassemblies 12 with reference to laser light 18 (optical signal) transmitted through a lens 16 and through the optical components 12; and thereby providing further adjustment (precision placement) to the alignment of the components 12 of the optical train to achieve accuracy on the micron scale (abstract;

and Figures 1-8). The abstract, Figures, German text (see column 3, lines 17-43; column 4, lines 64-68; column 5, lines 1-68; and column 6, lines 1-20), and claim 1 of the translation set forth that the respective distances between the plurality of positions "p" (reference marks) in Figures 6 and 7 would be determined prior to the preliminary alignment and/or subsequent laser alignment steps, since the optical properties of the optical components are predetermined when placed on the optical bench to form the optical train, and such measurements between positions "p" would be advantageous for more rapidly achieving micron-scale alignment (abstract; column 3, lines 17-43; column 4, lines 64-68; column 5, lines 1-68; and column 6, lines 1-20).

Regarding the translation of the German document (applicants are referred to, in particular, pages 2 and 6-14, claims, and Figures 1-8), optical components are installed onto an optical bench to form an optical train (optical bank – page 7), positions of the optical components are measured (page 12 and claim 1), and alignment is conducted with a laser adjustment via a sensor system to determine the irradiation output, to detect maladjustment (misalignment) of optical components (claim 1 – see translation of German document). As a result, the German document (in particular claim 1) also discloses the sequential steps set forth in new dependent claims 49 and 50.

3. Claims 1-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Verdiell (US 6,207,950).

Verdiell discloses an optical electronic assembly having a flexure for maintaining alignment between optical elements, in which the optical assembly includes the

following features and process steps to achieve optical component alignment: providing/installing an arrangement of a plurality of optical components (comprising an optical train assembly) having predetermined optical properties (for example, lens 16 having a focal length and an optoelectronic element laser diode 18), and an optical element 22 attached to a flexure 24 (attached by soldering, brazing, or welding, for example, and providing a degree of plastic deformation) on a package 10 comprising a substrate 12 (optical bench) and a positioning floor 14 having reference marks for relative positioning of all components; vertically aligning (measuring) optical parts mounted on a raised platform 20 (attached as submounts by solder bonding, brazing, or thermal bonding) adjustable with respect to "pick and place" precision of less than one micron vertically, and within a few microns precision in the lateral and transverse dimensions; and achieving further alignment via adjusting of the laser diode 18 (to provide an optical signal) to an (additional) precision of better than 5 microns after positioning of the optical components (abstract; column 2, lines 54-67; column 3, lines 1-67; column 4, lines 1-21; column 5, lines 16-67; column 6, lines 1-67; column 7, lines 1-67; column 8, lines 1-29; and Figures 1-7).

Response to Arguments

4. The examiner acknowledges the applicants' amendment/response received by the USPTO on July 6, 2004. The applicants have added new dependent claims 49 and 50, such that claims 1-50 are presently under consideration in the application.

5. Applicants' arguments filed July 6, 2004 have been fully considered but they are not persuasive.

With regard to the applicants' remarks/arguments on pages 10 and 11, the examiner respectfully disagrees with the applicants' assertions that the process steps are to be "implicitly" taken in view of the terms "followed by", "sequence", and "then" since the claimed steps (which have "comprising" language and lack these "sequential" terms and others such as "subsequently", "thereafter" etc.) are not required to be taken in any particular order when considering the prior art (although the German reference does, in fact, have this sequential order – see claim 1 of the German document, in particular). In other words, the ordering of the process steps are NOT implicit due to the "comprising" language, regardless if "active" or "passive" alignment processes are taught in the prior art. However, new dependent claims 49 and 50 (which are rejected in view of the German reference) would not be rejected under Verdiell (see above).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kiley Stoner AU1725
Kiley Stoner 8/29/04

KPK
kpk
July 29, 2004

Kevin P. Kerns
Examiner
Art Unit 1725